




UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,501	03/19/2004	David T. Amm	10021.002210 (P0304)	7687
31894	7590	02/01/2006	EXAMINER	
OKAMOTO & BENEDICTO, LLP P.O. BOX 641330 SAN JOSE, CA 95164			NGUYEN, HUNG	
			ART UNIT	PAPER NUMBER
			2851	

DATE MAILED: 02/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/804,501	Applicant(s) AMM, DAVID T. 	
	Examiner Hung Henry V. Nguyen	Art Unit 2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-13 is/are rejected.
- 7) ☒ Claim(s) 3 and 14-16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/13/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of group I (claims 1-16) in the reply filed on December 7, 2005 is acknowledged.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-2, 9-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Sweatt et al (U.S.Pat. 6,060,224).

With respect to claims 1 and 12, Sweatt et al (figure 4) discloses a modulator arrangement /or a writing point array comprising all basic features of the instant claims such as: at least two arrays tiles of modulators (upper array and lower array), each array tile having a substantially equal modulator (A or B) pitch and being configured to form a plurality of rows, each row extending in a first direction (perpendicular with the scan direction) and a plurality of columns, each column extending in a second direction (scan direction), where the first direction and second direction are substantially perpendicular to each other and wherein two adjacent array tiles are separately by a first displacement in the first direction and a second displacement in the second direction.

With respect to claims 2 and 13, Sweat teaches each of the plurality of rows in each array tile includes a first number of modulators distributed in the first direction and each of the plurality of columns in each array tile includes a second number of modulators distributed in the second direction (as clearly illustrated in figure 4) and wherein the at least two array tiles (upper and lower arrays) are configured to move along a scan direction at a desired angle between the first and second direction and the scan direction is chosen to form a continuous lithographic swath having a swath width in the second direction (see col.3, lines 25-30 and col.4, lines 13-22).

As to claim 9, Sweatt teaches the first and second displacements are chosen such that the modulator arrangement is configured to write pixels onto a media (130) having substantially complete two dimensional band coverage (see col.2, lines 58-67).

With respect to claims 10-11, although Sweat does not specifically disclose the claimed ribbon structures, these features are seen to be inherent teachings of that device since spatial light modulators for generating maskless lithography or printing application are disclosed (col.4, lines

Art Unit: 2851

35-40) and it is apparent that a plurality of ribbon structures must be present for the modulators to functions as intended.

4. Claims 1, 9-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Jain et al (U.S.Pat. 6,870,554).

With respect to claims 1 and 12, Jain discloses a modulator arrangement /or a writing point array comprising all basic features of the instant claims such as: at least two arrays tiles of modulators (see figure 5), each array tile having a substantially equal modulator (see figure 2; and col.4, lines 14-20) pitch and being configured to form a plurality of rows, each row extending in a first direction and a plurality of columns, each column extending in a second direction , where the first direction and second direction are substantially perpendicular to each other and wherein two adjacent array tiles are separately by a first displacement in the first direction and a second displacement in the second direction (see figure 5).

As to claim 9, Jain teaches the first and second displacements are chosen such that the modulator arrangement is configured to write pixels onto a media (9) having substantially complete two dimensional strip of pixels coverage.

As to claims 10-11, Jain teaches the modulator comprises light modulator (SLP) having a plurality of ribbons and wherein the plurality of ribbon structures includes a number of ribbons selected from a group consisting of from 3 to 15 (see col.3, lines 45-55).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sweat et al (U.S.Pat. 6,060,224) in view of Lin (U.S.Pat. 6,215,578).

With respect to claims 4-8, Sweat et al or Jain discloses a modulator arrangement comprising substantially all of the limitations of the instant claims as discussed. Sweat et al lacks to show one or more drivers coupled to the modulators for controlling the modulators as recited in the instant claims. However these features are well known per se. For example, Lin discloses modulator arrangement having one or more drivers (34, 38) coupled to each array tile (see figures 5A-5B). In view of such teachings, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Sweat et al and Lin to obtain the invention as specified in claims 4-8 of the present invention. It would have been obvious to a skilled artisan to utilize and to position the drivers as taught by Lin into the modulator arrangement of Sweat et al for the purpose of precisely controlling the modulator arrays.

Allowable Subject Matter

7. Claims 3 and 14-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record either alone or in combination neither discloses nor makes obvious the combination of a modulator arrangement/or writing points array apparatus comprising at least two array tiles of modulators/or two sections, with particular structures and arrangements satisfying condition as recited in the instant claims of the present invention.

Prior Art Made of Record

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cebuhar (U.S.Pat. 6,831,768); Bleeker et al (US 2005/0046819 A1) are cited for teachings of modulator arrangements for maskless lithography or printing application.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Henry V. Nguyen whose telephone number is 571-272-2124. The examiner can normally be reached on Monday-Friday (First Friday off).

Art Unit: 2851

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Hung Henry V Nguyen', with a long, sweeping horizontal line extending to the right.

Hung Henry V Nguyen
Primary Examiner
Art Unit 2851

hvn
1/27/06